IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Debra D. Wawro Sorin Tibuleac Robert Magnusson	Group Art Unit: 2882 Examiner: Kao, Chih-Cheng G.
Serial No.: 09/707,435	Atty. Dkt. No.: UTSL:058US/MTG
Filed: November 06, 2000	
For: RESONANT WAVEGUIDE-GRATING FILTERS AND SENSORS AND METHODS FOR MAKING AND USING THE SAME	

SECOND DECLARATION OF ROBERT MAGNUSSON UNDER 37 C.F.R. § 1.132

I, Robert Magnusson, declare as follows:

1. I am one of the inventors of the above-captioned patent application.

2. I received a Ph. D. degree in Electrical Engineering from the Georgia Institute of Technology in 1976. I joined the faculty of the University of Texas at Arlington in 1984. There, I established instructional and research programs in optics and developed major experimental facilities in photonics and nanotechnology. I was Professor and Chair of the Department of Electrical Engineering at the University of Texas at Arlington during 1998-2001 and am presently Professor and Head of the Electrical and Computer Engineering Department at the University of Connecticut. I have served as a topical editor of Applied Optics, associate editor of Optical Engineering, and as general chair for the Diffractive Optics and Micro Optics 2002 topical meeting. With my students and colleagues, I have authored over 200 journal articles and conference papers. I am a Fellow of the Optical Society of America and SPIE (International Society for Optical Engineering). I am a recipient of the IEEE Third Millennium Medal and an elected member of the Connecticut Academy of Science and Engineering. I am the Chief

Technical Officer of Resonant Sensors Incorporated (RSI), a company founded in 2004. RSI is a wholly-owned subsidiary of Resonant Optics Incorporated, which has an exclusive license to this patent application.

3. I have read the May 16, 2006 Office Action. I understand that the Patent Office believes that some combination of U.S. Patent Nos. 6,055,262 to Cox; 5,812,571 to Peters; and 5,598,300 to Magnusson *et al.* discloses the subject matter of the version of claim 1 that appears in the Response to which this declaration pertains. That is not correct.

4. All of the patent claims have been amended to recite that the originally-claimed waveguide on which a guided-mode resonance waveguide grating was fabricated is now a fiber. Neither the Cox patent, the Peters patent, nor the Magnusson patent disclose a GMR waveguide grating that is *fabricated* on the endface of a fiber. While Peters shows a VCSEL array that is *butt-coupled* to a fiber (col. 5, line 58 – col. 6, line 4 and FIG. 6), butt-coupling is not understood by those of ordinary skill in this field to qualify as fabrication. In this field, butt-coupling is butting one element against another to minimize loss between the two without the need for focusing lenses or other optical elements. Fabrication is a term that is understood by those of ordinary skill in this field to cover techniques such as those listed in the last paragraph on page 26 of my patent application. Fabrication is not understood by such people to cover mere butt-coupling.

5. I declare that all statements made of my own knowledge are true and all statements made on information are believed to be true and further that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under § 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issued on it.

Date: June 1, 2006

Robert Magnusson